Lake Clark Sockeye Salmon Escapement and Population Monitoring

Abstract: Sockeye salmon originating from the Kvichak River watershed historically dominated valuable subsistence, sport, and commercial fisheries in Bristol Bay, Alaska. The recent decline in sockeye salmon runs to Bristol Bay has caused economic hardship and raised concerns among fishers and federal managers. Obtaining reliable estimates of spawning escapement over time is the number one priority identified by the Subsistence Fisheries Resource Monitoring Program for Bristol Bay. Estimates of sockeye salmon escapement to Lake Clark were made at river kilometer 36 of the Newhalen River using the same tower site and protocols that were used in previous studies. Sockeye salmon ages and size were determined from otoliths collected from the Newhalen River subsistence fishery and by seines. Total Lake Clark escapement, based on expanded counts was estimated as 445,608 fish (95% confidence interval (CI), 429,560 – 461,656), which was 19% of the total Kvichak River escapement. The age composition of sampled fish was predominately age 1.3 (63%) followed by age 1.2 (23%), age 2.3 (10%), and age 2.2 (5%). The 2005 Lake Clark escapement was 57% higher than the mean escapement from 2000 – 2004, but 61% lower than the mean escapement from 1980 – 1984. Lake Clark escapement comprised 19% of the total Kvichak River escapement, which is similar to the average percentage reported in the 1980s (16%) and 2000s (17%). Run timing, water temperatures and stream discharge were similar to what has been reported in previous years.

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